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Foreign Documents Branch C I A Periodical Abstracts

22 October 1948

SCIENTIFIC

Number 76

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NOTE: All periodicals listed below are available in Foreign Documents Branch, CIA.

Abstracted in this issue:

<u>Title</u>	<u>Issue</u>	<u>Date</u>
<u>Russian Periodicals</u>		
"Astronomicheskii Zhurnal" (Astronomical Journal) Cards 52, 100-103	Vol XXV No 3	May/Jun 1948
"Avtomatika i Telemekhanika" (Automechanics and Telemechanics) Cards 13, 15-19, 47	Vol IX No 3	May/Jun 1948
"Doklady Akademii Nauk SSSR, Novaya Seriya" (Reports of the Academy of Sciences of the USSR, New Series) Cards 6-12, 46, 48-51, 75-88, 90, 92-99	Vol LX No 7	Jun 1948
"Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk" (News of the Academy of Sciences of the USSR, Department of Technical Sciences) Cards 2-5, 14, 44, 45, 89, 91	No 5	May 1948
"Prikladnaya Matematika i Mekhanika" (Applied Mathe- matics and Mechanics) Cards 39-43	Vol XII No 3	May/Jun 1948
"Sovetskaya Meditsina" (Soviet Medicine) Cards 64-74	No 5	May 1948
"Stanki i Instrument" (Machine Tools and Instruments) Cards 1, 20-38	No 2 No 3 No 4	Feb 1948 Mar 1948 Apr 1948
"Vestnik Oftalmologii" (Herald of Ophthalmology) Cards 53-56	Vol XXVII No 3	May/Jun 1948
"Vestnik Oto-Rino-Laringologii" (Herald of Otorhinolaryngology) Cards 57-62	Vol X No 3	May/Jun 1948
"Voprosy Neyrokhirurgii" (Problems of Neurosurgery) Card 63	Vol XII No 3	May/Jun 1948

NOTE

In indexing these abstracts the following guides are used: MEDICINE - "Quarterly Cumulative Index Medicus," American Medical Association; CHEMISTRY - "Chemical Abstracts Subject Index," American Chemical Society; GENERAL - "Subject Headings for Technical Libraries," US Department of Commerce, Office of Technical Services.

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RESTRICTED	FDB Periodical Abstracts Scientific No 76	RESTRICTED	
USSR/Academy of Sciences Engineering	Feb 1948	USSR/Academy of Sciences Bibliography	May 1948
"Awarding of Prizes at Third Session of Judges of All-Union Concourse for Designers and Instrument Builders" $\frac{1}{2}$ p		"Bibliography of Works Published in September-December 1947, by Academicians, Corresponding Members of Academy of Sciences, and Other Workers in Department of Technical Sciences, Academy of Sciences USSR," edited by F. B. Bychkin, G. A. Teplitskiy, 12 pp	
"Stanki i Instrument" No 2		"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5	
First prize of 40,000 rubles awarded to Uverskiy, Bandurko, Shrayman, and Kudryashov. Second prize of 20,000 rubles went to Chernichkin, Ryvkin, Chartov, Vastyutichev, Gorodetskiy, Dvoretzkiy, Petrov, and others. Third prize of 10,000 rubles awarded to Roginskiy, Simonov, Ovcharenko, Lapin, and others.		Articles and books cover: automatics, telemechanics, geology and petrography, hydrology and gydrotehnology, mining, machine studies, history of science and technology, metallurgy and metal studies,	
FDB	76T1	FDB	76T2
USSR/Academy of Sciences Electricity Thermodynamics	May 1948	USSR/Academy of Sciences (Contd)	May 1948
"Competition for Prizes in Technical Sciences During 1948" 1 p		mechanics and mathematics, radio technology, dressing of minerals, scientific and technical terminology, calculating machines, thermal technology, fuel, transportation, chemistry, electrical technology, electric welding, and power engineering. Also lists journals consulted before compilation of this bibliography.	
"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5			
Deadline is Sep 1948 for articles submitted for the prizes: imeni P. N. Yablochkov (electrical and light technology), imeni I. I. Polzunov (thermal technology and theory of engines).			
FDB	76T3	FDB	76T2
USSR/Academy of Sciences Terminology	May 1948	USSR/Chemistry - Kerosene, Pyrolysis of Chemistry - Tar	May 1948
"Formation of a System of Scientific and Technical Terminology: the Elements of Terminology," L. S. Lotte Committee for Tech Terminol, Acad Sci USSR, 28 $\frac{1}{2}$ pp		"Research on Kerosene Pyrolysis Tar," N. M. Karavayev, Corr Mem Acad Sci USSR, and I. M. Vener, Inst of Mineral Fuels, Acad Sci USSR, 5 $\frac{1}{2}$ pp	
"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5		"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5	
Describes basic requirements for scientific and technical terms, component parts and elements, and structure and composition of terms. Submitted by Academicians S. P. Obnorskiy and A. M. Terpigorev 25 Feb 1948.		Research on tar derived during the pyrolysis of kerosene is of great interest as this tar will serve as source of aromatic hydrocarbons. Data was obtained as result of fractioning of tar at 170-250°. Submitted 23 Feb 1948.	
FDB	76T4	FDB	76T5
USSR/Chemistry - Amines Chemistry - Chromatography	Jun 1948	USSR/Chemistry - Phosphine Chemistry - Oxidation	Jun 1948
"Separation of Ammonia, Methyl-, Dimethyl-, and Trimethylamine by the Method of Distributive Chromatography," N. A. Fuks, M. A. Rappoport, Sci Inst of Fertilizers and Insecticides imeni Ya. B. Samoylov, 3pp		"Catalytic Oxidation of Phosphine in the Adsorptive Layer," Ye. A. Andreyev, N. N. Kavtaradze, 3 pp	
"Dok Ak Nauk SSSR" Vol LX, No 7		"Dok Ak Nauk SSSR" Vol LX, No 7	
This method may be used to obtain amines in totally pure form. Submitted Mar 1948.		Uses data obtained from experiments to establish some features of this unusual low-temperature catalytic reaction. Submitted Mar 1948.	
FDB	76T6	FDB	76T7

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USSR/Chemistry - Ions, Electrolytic, Exchange of Chemistry - Phosphates	Jun 1948	USSR/Chemistry - Nitroso Compounds Chemistry - Olefins Jun 1948	
"The Dynamics of Ion Exchange," D. D. Ivanenko, V. V. Rachinskiy, T. B. Gapon, E. N. Gapon, Moscow Agr Acad imeni K. A. Timiryazev, 4 pp		"The Reaction of Diene Hydrocarbons With Nitroso Compounds," Yu. A. Arbuzov, N. L. Fedyukina, 4 pp	
"Dok Ak Nauk SSSR" Vol IX, No 7		"Dok Ak Nauk SSSR" Vol IX, No 7	
Study of the dynamics of the exchange of phosphate ions. Submitted Mar 1948.		Describes the addition of 1,3-butadiene to isomeric nitrosotoluene, and the addition of 1,3-pentadiene and 2,4-hexadiene to nitrosobenzene. Submitted Mar 1948.	
FDB	76T8	FDB	76T9
USSR/Chemistry - Isomers, Rotational Chemistry - Ethane, 1,2-Dichloro	Jun 1948	USSR/Chemistry - Heterocyclics Chemistry - Organic Compounds Jun 1948	
"Delayed Rotation in the Series 1,2-Dihalogen Ethanes. Spectra of the Combined Diffusion of Light of 1,2-Dichloroethane and 1,2-Dibromethane in Solutions," O. L. Aronov, V. M. Tatevskiy, A. V. Frost, Moscow State U imeni M. V. Lomonosov, 4 pp		"Transformation of Heterocyclics: 2-Phenylthiazol-4-Carbonic Acid From 2-Phenyl-4-(Carbethoxymethylamino-methylene)-Oxazolin-5-On," A. Ya. Berlin, V. I. Maymind, All-Union Sci Res Chemicophar Inst imeni S. Ordzhonikidze, 3 pp	
"Dok Ak Nauk SSSR" Vol IX, No 7		"Dok Ak Nauk SSSR" Vol IX, No 7	
Discusses effect of various solvents on the constant of equilibrium of rotation isomers. Submitted Mar 1948		Describes and analyzes experiment involving subject reaction. Submitted Mar 1948.	
FDB	76T10	FDB	76T11
USSR/Chemistry - Alkali Metal, Fluorides Chemistry - Aluminum Fluoride	Jun 1948	USSR/Communications Relays, Telephone May/June 1948	
"Complex Formation Between the Fluorides of Alkali Metals and Metals of the Third Group," E. P. Dergunov, Lab of Fused Salts, Inst of Gen and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, 4 pp		"Twenty-Fifth Year Jubilee of the Soviet Telephone Relay System" 2 pp	
"Dok Ak Nauk SSSR" Vol IX, No 7		"Avtomat i Telemekhan" Vol IX, No 3	
Applies visual-polythermic method to determine character of the interaction of fluorides of alkali metals with fluorides of aluminum, yttrium, and lanthanum. Submitted Apr 1948.		Describes application of the relay system invented by V. E. Kovalenkov. Diagram shows its principle of operation.	
FDB	76T12	FDB	76T13
USSR/Electricity Generators, Electric Systems, Electric	May 1948	USSR/Electricity Amplifiers, Linear Distortion May-June 1948	
"Dynamic Equilibrium of the Magnetic State of an Electrical Machine in a Leonard System," Acad V. P. Nikitin, N. P. Kunitskiy, 13 1/2 pp		"General Theory of Linear Amplifiers, I," S. P. Strelkov, Sci Res Inst of Phys, Lab of Oscillation, Moscow State U, 12 pp	
"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5		"Avtomat i Telemekhan" Vol IX, No 3	
Expands conditions for the stability of dynamic equilibrium of electrical systems, as presented by V. P. Nikitin and which he applied to operation of an electric arc in 1925, so that they can also be applied to excitation and damping of electrical generators and Leonard system machines. Submitted 15 Jan 1948.		Attempts to give approximate value of distortion by new methods. Consists of two parts. Part I gives general conditions, indicates basic methods of analysis, and reaches qualitative conclusions. Submitted 20 Apr 1948.	
FDB	76T14	FDB	76T15

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USSR/Electronics Regulators, Electronic Circuits, Electronic	May/Jun 1948	USSR/Electronics Regulators, Electronic Parameters, Stability	May/Jun 1948
<p>"Maximum Deviation of the Regulated Quantity in a Transition Process," G. M. Ulanov, Inst of Automatics and Telemekh, Acad Sci USSR, 8 pp</p> <p>"Avtomat i Telemekhan" Vol IX, No 3</p> <p>Solves problem of evaluating maximum deviation of regulated quantity in linear systems of automatic regulation by means of du Hamel's integral. Shows that maximum variation is very simply determined by values of the limits of transition process, which</p>		<p>"Stability of One Class of Systems of Automatic Regulation With Divided Parameters," Ya. Z. Tsypkin, 14 pp</p> <p>"Avtomat i Telemekhan" Vol IX, No 3</p> <p>Gives criterion of stability of wide class of automatic regulating systems with divided parameters, based on generalization of previously established stability criterion of systems with lagging return link. Includes examples of application of this</p>	
FDB	76T16	FDB	76T17
USSR/Electronics (Contd)	May/Jun 1948	USSR/Electronics (Contd)	May/Jun 1948
<p>arises in the system when it is disturbed by a single force applied suddenly. Quotes examples of calculation of upper limit of maximum deviation of regulated quantity in some dynamic systems, and in particular, the concrete system of automatic control of pressure charging in aero-engine. Submitted 30 Sep 1947.</p>		<p>criterion to investigation of stability of some automatic regulating systems with divided parameters. Submitted 27 Nov 1947.</p>	
FDB	76T16	FDB	76T17
USSR/Electronics Regulators, Electronic Circuits, Linear	May/Jun 1948	USSR/Electronics Regulators, Voltage Regulators, Electronic	May/Jun 1948
<p>"Determination of the Value of Parameters for Which a System of Automatic Regulation is Stable," Yu. I. Neymark, Gor'kiy State U, 14 pp</p> <p>"Avtomat i Telemekhan" Vol IX, No 3</p> <p>Gives method of plotting stability regions of equilibrium positions of linearized systems, both divided and discrete, for any pair of parameters. Submitted 2 Dec 1947.</p>		<p>"Analysis of the Stability of an Electron-Ion Voltage Regulator," L. S. Sol'dfarb, Moscow Power Eng Inst, 6 pp</p> <p>"Avtomat i Telemekhan" Vol IX, No 3</p> <p>Analyzes stability of generator voltage regulation excited by an electron-ion regulator with an elastic return link. Gives equations for separate elements of the system. Shows that introduction of an elastic return link to insure stability is equivalent to</p>	
FDB	76T18	FDB	76T19
USSR/Engineering Machines, Milling Tools, Cutting	Apr 1948	USSR/Electronics (Contd)	May/Jun 1948
<p>"Round Broaches for Progressive Milling," V. A. Sergiyenko, 1 p</p> <p>"Stanki i Instrument" No 4</p> <p>Discusses methods employed at the UralMashZavod for broaching holes up to 310 mm in diameter. This is the largest diameter used in machine construction in the USSR.</p>		<p>increase in time constant of the exciter, and leads to considerable decrease in speed of regulating process. Investigates equations, showing that it is expedient to aim at high amplification in the power-amplifying element of the regulator and less in its measuring element. Gives design formulas and curves for return link.</p>	
FDB	76T20	FDB	76T19

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USSR/Engineering Reamers Tools, Cutting "Cone-Shaped Reamer Head," S. N. Filonenko, Engr, 1 p "Stanki 1 Instrument" No 4 Describes construction of cone-shaped reamer which permits the simultaneous formation of rough and finished holes.	Apr 1948 76T21	USSR/Engineering Lubricants - Cooling Tools, Cutting "The Physical and Chemical Actions of the Cooling of Lubricants on the Process of Removing Turnings," F. A. Bashkirov, 5 pp "Stanki 1 Instrument" No 4 Gives factors that affect the selection of proper cooling lubricating liquid, the turning process, the effect of subject liquid in grinding, milling, and gear cutting, and several other methods of working metals.	Apr 1948 76T22
USSR/Engineering Machines, Drilling and Boring Reamers "Studies on the Causes for Fracturing of Apertures During Reaming," A. N. Reznikov, Cand Tech Sci, Kuybyshev Industrial Inst, 3 1/4 pp "Stanki 1 Instrument" No 4 Describes the various factors that enter into calculations for obtaining reamed apertures of required diameter.	Apr 1948 76T23	USSR/Engineering Machines, Grinding Machinery - Construction "Industrial Grinding With Inside Surface Grinders," K. P. Yermolayev, Engr, 4 pp "Stanki 1 Instrument" No 4 Describes grinding of inside surfaces having several stepped surfaces, use of large-diameter grinders for widening apertures, simultaneous grinding of several apertures, and use of internal surface grinders for grinding outside surfaces.	Apr 1948 76T24
USSR/Engineering Machinery - Design Tools, Machine "Single-Spindel Hydroelectrified Automatic Machine Tool," Docent N. M. Lych, Cand Tech Sci, 3 1/4 pp "Stanki 1 Instrument" No 4 Photographs, circuit diagrams, and performance of subject automatic machine tool developed by A. N. Prilutskiy and V. L. Inosov at Kiev Industrial Inst during 1940-1941. It is characterized by an absence of cam drive.	Apr 1948 76T25	USSR/Engineering Machinery - Construction Tools, Cutting "Completion of Assigned Plans by the Industries of the Ministry of Machine Construction for December and the Last Quarter of 1947" 1 p "Stanki 1 Instrument" No 3 Gives percentage figures of the production of grinders, millers, cutters, etc., and achievements in some related fields in construction of machine tools. Describes new machines put into production at "Krasnyy Proletariy" Works.	Mar 1948 76T26
USSR/Engineering Machines, Milling Screw Threads "Complex Thread Milling Cutter," G. S. Ratushev, Engr, B. F. Sevast'yanov, 2 pp "Stanki 1 Instrument" No 3 Describes complex thread milling cutter head with adjustable teeth.	Mar 1948 76T27	USSR/Engineering Machines, Milling Worms "Profiling of Worm Miller for Finished Cylindrical Gears Prior to Shaving," A. O. Etin, Cand Tech Sci, M. D. Genkin, 5 1/4 pp "Stanki 1 Instrument" No 3 Describes processes performed for facilitating work of shaving a screw worm on various parts of machines to determine methods for more efficient clearing of the teeth of the shaver.	Mar 1948 76T28

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USSR/Engineering Metals - Cutting Tools, Cutting "Physical Fundamentals of the Process of Metal Cutting," B. I. Kostetskiy, Cand Tech Sci, 3 pp "Stanki i Instrument" No 3 Studies effect of external friction that occurs during cutting of metals resulting in data obtained on the state of surface layers of cutting facets of the cutting instruments after these tools had been ground and sharpened. Data also obtained on changes in physical and structural states of cutting tools. FDB 76T29	USSR/Engineering Tools, Cutting Metals - Cutting "The Works of Soviet Scientists in the Field of Metal Cutting," Prof V. A. Krivoukhov, Dr Tech Sci, 3 1/2 pp "Stanki i Instrument" No 3 Briefly lists some of more important works published by Russian and Soviet scientists during 1918-1948 in the technology of cutting metals. FDB 76T30	
USSR/Engineering Machinery - Design Machinery - Analysis "Power Analysis for Machinery in the Drawing Board Stage," Prof A. P. Malyshev, Dr Tech Sci, 8 1/4 pp "Stanki i Instrument" No 3 Presents various factors that must be taken into account during designing stage of machinery, especially the stresses and tensions that the projected machinery is capable of under operational conditions. FDB 76T31	USSR/Engineering Machinery - Construction Machinery - Design "All-Union Concource for Designers and Instrument Builders" 1/2 p "Stanki i Instrument" No 2 Describes some of the prizes established for outstanding work in constructing production equipment. Sets up requirements for competition for these prizes. FDB 76T32	
USSR/Engineering Varnishes Machinery, Milling "New Anticorrosive Varnishes," Yu. V. Vodzinskiy, Engr, 1/4 p "Stanki i Instrument" No 2 Describes characteristics and components of new anticorrosive varnish Type N35K20, developed at the Gor'kiy Works for Milling Machinery, GZFS. FDB 76T33	USSR/Engineering Machinery, Milling Zinc, Alloys "Millers With Cast Zinc Alloy Bodies," A. B. Frenkel', Engr, 1 p "Stanki i Instrument" No 2 Good results obtained by using cast zinc alloys for the main part of millers. Cutting teeth are installed into this zinc alloy part. Method was developed at Works imeni Stalin. FDB 76T34	
USSR/Engineering Machinery - Construction Smelting "Electric Arc Smelting for the Production of Disc-Shaped Millers," Z. M. Ryzhik, Engr, 1 p "Stanki i Instrument" No 2 Presents results obtained from use of electric arc smelting in manufacture of disc-shaped millers. One of the greatest economies is in the use of high-speed steel. FDB 76T35	USSR/Engineering Machines, Milling Machinery - Construction "Use of Magnetic Slabs for Strengthening Parts Being Finished on a Milling Machine," M. I. Shalygin, 1 p "Stanki i Instrument" No 2 Magnetic slabs have been used with lathes and planers in the USSR and foreign countries. Describes first use of such slabs for reinforcing of parts being worked on milling machine. FDB 76T36	

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USSR/Engineering Steel - High Speed Tools, Cutting		Feb 1948	USSR/Engineering Machines, Milling Machinery - Construction		Feb 1948
"Selection of the Correct Type of High-Speed Steel Alloy for Cutting Tools," P. P. Grudov, Cand Tech Sci, S. I. Volkov, Engr, 7 1/4 pp			"Mechanization of the Process for Finishing Multi-profile Parts for a Multiple Cutter Milling Duplicating Machine," B. A. Shchukarev, Laureate of Stalin Prize, 6 pp		
"Stanki i Instrument" No 2			"Stanki i Instrument" No 2		
Describes various factors to be kept in mind during selection of proper type of high-speed steel for manufacture of tools for machines.			Until now milling duplicating machines have not been mass produced due to high degree of accuracy necessary in various parts of machine. Describes accurate machine method to produce parts for milling duplicating machines permitting mass production of these machines in near future.		
FDB		76T37	FDB		76T38
USSR/Engineering Elasticity Mathematics, Applied		May/Jun 1948	USSR/Engineering Wave Propagation - Velocity Oscillations		May/Jun 1948
"The Asymptotic Integration of the Equation of the Theory of Elasticity Applied to Lamina and Discs of Various Widths," P. M. Riz, Moscow, 4 pp			"The Propagation of Waves During Transverse Oscillations of Rods and Lamina," Ya. S. Uflyand, Leningrad Polytech, 14 pp		
"Priklad Matemat i Mekhan" Vol XII, No 3			"Priklad Matemat i Mekhan" Vol XII, No 3		
Uses method of integration analogous to those used by Leybenzon and Denkan to determine approximate method for solving the theory of elasticity for thin "bodies." Submitted 27 Feb 1948.			Studies the continuous processes during subject phenomenon. Determines two different speeds for the propagation of waves. Submitted 8 Dec 1947.		
FDB		76T39	FDB		76T40
USSR/Engineering Wave Propagation Shock Waves		May/Jun 1948	USSR/Engineering Wave Propagation Elasticity		May/Jun 1948
"Elasticoplastic Spherical Wave of Loading," F. A. Bakhshiyev, Inst of Mech, Acad Sci USSR, Moscow, 6 pp			"The Propagation of Elasticoviscous Plastic Waves in Rods," V. V. Sokolovskiy, Inst of Mech, Acad Sci USSR, 20 pp		
"Priklad Matemat i Mekhan" Vol XII, No 3			"Priklad Matemat i Mekhan" Vol XII, No 3		
Studies propagation of subject waves under conditions where there is no load. Continues the work done by At'tshuler who studied propagation of spherical shock-wave in plastic medium. Submitted 25 Jan 1948.			Studies to determine characteristics of propagation of waves in rods made of materials having both elastic and viscous plastic properties. Studies these materials on the basis of their relation to stress and deformation. Submitted 12 Jan 1948.		
FDB		76T41	FDB		76T42
USSR/Engineering Deformation Stress		May/Jun 1948	USSR/Engineering Plastics - Deformation Creep		May 1948
"Generalization of the Linear Laws of Deformation, and Its Application to the Problem of Internal Friction," A. N. Gerasimov, Moscow, 10 pp			"In the Department of Technical Sciences" 1 p		
"Priklad Matemat i Mekhan" Vol XII, No 3			"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5		
Gerasimov applies Boltzmann's equation for linear integrals to the case where stress is dependent on all forms of tensions that go into process of deformation. Submitted 5 Jun 1947.			Session was held on 24 Dec 1947: V. I. Popkov presented article on the theory of bipolar coronas on power lines, and A. B. Chernyshev, on organochemical method for using hard fuels by semicooking. Another session was held 28 Feb 1948: A. A. Il'yushin presented article on theory of small plastic deformations and their application. Yu. N. Rabotnov dis-		
FDB		76T43	FDB		76T44

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USSR/Engineering Wing Theory Mathematics, Applied		May 1948	USSR/Engineering (Contd)		May 1948
"The Prandtl Equation in the Theory of a Wing of Finite Span," D. I. Sherman, Inst of Mech, Acad Sci USSR, 6 pp			cussed theory of creep in metals and its application for designing parts.		
"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5					
Presents solutions for Prandtl's integral differential singular equation for case when function $p(x)$ is rational. Also presents approximate method for solving the equation which will hold true for any value of the function $b(x)$. Submitted 2 Feb 1948.					
FDB	76T45	FDB	76T44		
USSR/Engineering Filtration Dams		Jun 1948	USSR/Engineering Turbines, Water Regulators		May/Jun 1948
"Filtration Through a Dike or Dam With a Core or Baffle (Impervious Foundation)," F. B. Nel'son-Skorn-yakov, 4 pp			"The Effect of Water Hammer on the Stability of the Regulation of Water Turbines," G. V. Aronovich, Physicotech Inst, Gor'kiy State U, 29 pp		
"Dok Ak Nauk SSSR" Vol IX, No 7			"Avtomat i Telemekhan" Vol IX, No 3		
Presents general solution of problem on filtration without free surface through core or baffle of arbitrary triangular form. Submitted Feb 1948.			Stability conditions for some simple cases are found by analysis of transcendental functions. Shows that Stodola's equations represent limited case of the foregoing, on assumption that there is no lag. Examines qualitatively general case of turbine govern-		
FDB	76T46	FDB	76T47		
USSR/Geological Prospecting Stratification Minerals		Jun 1948	USSR/Engineering (Contd)		May/Jun 1948
"Vertical Zonality of Pegmatites in Samples From a Pegmatite Field of Aksu-Pushtiry (Turkestan Ridge)," A. A. Beus, 4 pp			ing. Conducts stability investigation with aid of Naykrist's criterion. Gives basis for using this criterion to determine stability of systems containing divided links /for case when characteristic curve with $\omega = \pm\infty$ passes through the critical point $(1, j0)$ /. Submitted 2 Dec 1947.		
"Dok Ak Nauk SSSR" Vol IX, No 7					
Briefs mineralogical findings in pegmatite veins in subject area. Submitted Mar 1948.					
FDB	76T48	FDB	76T47		
USSR/Geology Stratification Petrology		Jun 1948	USSR/Geology Petrology Rock Formation		Jun 1948
"System of Separation of the Molasse of Northern Fergana," V. G. Kleynberg, All-Union Petroleum Geol Prospecting Inst, Leningrad, 3 1/2 pp			"Some Data on the Alluvial Loessic Rocks of Uzbekistan," G. A. Mavlyanov, 4 pp		
"Dok Ak Nauk SSSR" Vol IX, No 7			"Dok Ak Nauk SSSR" Vol IX, No 7		
Explains the term "Molasse" as applied in the case of Fergana, and describes formations which are divided into three series, Upper, Middle, and Lower. Submitted Feb 1948.			Data pertain specifically to the Chirchik, Zeravshan, Syr-Dar'ya, and Kashka-Dar'ya river areas. Submitted Mar 1948.		
FDB	76T49	FDB	76T50		

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USSR/Geology Stratification Tectonics		Jun 1948	USSR/Geophysics Meteorites		May/Jun 1948
"New Data on the Stratigraphy of the Jurassic Deposits of Northern Armenia," A. T. Aslanyan, Inst of Geol Sci, Acad Sci Armenian SSR, 4 pp			"The Case of the Fall of the Sikhote-Alin Meteorite," V. G. Fesenkov, 7 pp		
"Dok Ak Nauk SSSR" Vol LX, No 7			"Astron Zhur" Vol XXV, No 3		
From his studies of Mesozoic deposits of northern regions of Armenia, author has developed detailed stratigraphic pattern for rocks of Jurassic system. Submitted Mar 1948.			Giant meteorite which fell on outskirts of Sikhote-Alin Ridge between Vladivostok and Khabarovsk 12 Feb 1947 was unique phenomenon. Caused only fall of iron rain in history, covering an area of 10 sq km. Individual "hailstones" weighed as much as 300 kg. The over-all weight of the meteorite was about 1,000 tons, its elliptical crater measured 1 x 0.5 km		
FDB		76T51	FDB		76T52
USSR/Medicine - Glaucoma, Diagnosis Medicine - Diagnosis		May/Jun 1948	USSR/Geophysics (Contd)		May/Jun 1948
"Comparative Appraisal of Some of the Methods of Early Diagnosis of Glaucoma," L. Slutskin, Azerbaydzhan Sci Res Clinical Inst, 4 pp			being oriented roughly in a north - south line. Gives full account of the scientific investigation. Concludes that speed of meteorite was small, compared with that of the Tunguska meteorite of 30 Jul 1908.		
"Vest Oftalmol" Vol XXVII, No 3					
Results of subject studies led to conclusion that not one of the analyzed methods is reliable in diagnosing early cases of glaucoma, and that only combination of several methods permits correct diagnosis.					
FDB		76T53	FDB		76T52
USSR/Medicine - Eye, Wounds and Injuries Medicine - Sutures		May/Jun 1948	USSR/Medicine - Nerves, Optic Medicine - Nervous System		May/Jun 1948
"Homoplastics for Traumatic Defects of the Capsules of the Eyeball," Ye A. Chechik-Kunina, State Cen Ophthalmol Inst imeni Gel'gol'ts, 1/2 p			"Review of 'Chief Forms of Variations in the Optic Nerve,' by Academician M. I. Averbakh," Prof Pletnev, 1/2 p		
"Vest Oftalmol" Vol XXVII, No 3			"Vest Oftalmol" Vol XXVII, No 3		
Describes use of homologous tissues and method for saving eyes subjected to serious trauma, especially wounding of the eyeball. Used external sutures to close wounds. Conducted tests on ten rabbits. Four had their eyes restored and of these, three regained full use of various functions of the eyes.			This monograph published in 1946 is valuable addition to medical bibliography. It is poorly organized, however, and the arrangement of diagrams is inconsistent with the text.		
FDB		76T54	FDB		76T55
USSR/Medicine - Medicine, Military Medicine - Ophthalmology		May/Jun 1948	USSR/Medicine - Nervous System Medicine - Hearing		May/Jun 1948
"Review of 'Index of Military Ophthalmology,' by State Medical Publishers," Prof Savvaitov, 1 p			"Fatigue of the Organ of Hearing in the Light of the Study of the Fundamental Physiological Characteristics of the Central Nervous System," P. P. Kudryavtsev, Otorhinolaryngologist, A. V. Frolov, Acoustics Engr, 6 pp		
"Vest Oftalmol" Vol XXVII, No 3			"Vest Oto-Rino-Laringol" Vol X, No 3		
Book of about 300 pages published in 1947 gives general, well arranged account of work done by ophthalmologists during World War II. In spite of a few errors, it is hailed as great contribution to medical science, both in the USSR and abroad.			Presents various methods employed for studying effects of fatigue on the ear. Determines new waves to induce experimental fatigue by exposing the ear to prolonged sound.		
FDB		76T56	FDB		76T57

RESTRICTED	FDB Periodical Abstracts Scientific No 76	RESTRICTED	
USSR/Medicine - Mastoid, Surgery Medicine - Penicillin	May/Jun 1948	USSR/Medicine - Rhinitis, Atrophic Medicine - Blood Transfusion May/Jun 1948	
"Test of the Use of Penicillin Salve and Primary Suture in an Operation for Mastoiditis," I. S. Aleksandrin (Deceased), Cand Med Sci, Ear, Nose and Throat Sec, Ryazansk Oblast Clinical Hosp imeni N. A. Semashko, 5 pp		"Histomorphological Variations in the Mucous Membrane of the Nasal Cavities Before and After Treatment of Genuine Ozena With Aeroionization and Blood Transfusion," S. S. Grobshteyn, Dr Med Sci, Ear, Nose and Throat Chair and Chair of Path Anat, Leningrad Med Pediatrics Inst, 6 pp	
"Vest Oto-Rino-Laringol" Vol X, No 3		"Vest Oto-Rino-Laringol" Vol X, No 3	
Gives results of studies conducted in 1945 to determine whether or not application of penicillin salve to incision before primary suturing would speed up recovery period of patients after operations for		Presents various data supporting value of subject method, and clarifying its effect on regeneration of the mucous membrane.	
FDB	76T58	FDB	76T59
USSR/Medicine - Mastoid, Surgery (Contd)	May/Jun 1948	USSR/Medicine - Bronchoscopy Medicine - Foreign Bodies	May/Jun 1948
mastoiditis. Though method is still new and has not been used much, it is recommended treatment even in cases of complicated mastoiditis.		"Bronchoscope of the Factory 'Red Guardist'," Docent V. I. Strelov, Irkutsk, 1 p	
		"Vest Oto-Rino-Laringol" Vol X, No 3	
		Subject factory is producing bronchoscope which can be used on children without causing asphyxiation.	
FDB	76T58	FDB	76T60
USSR/Medicine - Bronchoscopy Medicine - Foreign Bodies, in Air and Food Passages	May/Jun 1948	USSR/Medicine - Bronchoscopy Medicine - Esophagoscopy	May/Jun 1948
"Forceps for Extracting Foreign Bodies, Attached to the Bronchoesophagoscope of the Factory 'Red Guardist'," L. L. Gizhday, Ear, Nose and Throat Dept and Prophylactic Sec, First Mun Pyatigorsk Hosp, 2 p		"Improvements to a Bronchoesophagoscope," A. A. Lapina, Cand Med Sci, Moscow, 1 p	
"Vest Oto-Rino-Laringol" Vol X, No 3		"Vest Oto-Rino-Laringol" Vol X, No 3	
Describes some of the alterations made to hook at end of subject instrument to prevent harm to walls of alimentary passages through faulty manipulation.		Describes several defects of contemporary bronchoesophagoscopes with the idea that suggestions for improvement will be incorporated into later models.	
FDB	76T61	FDB	76T62
USSR/Medicine - Wounds Medicine - Brain, Wounds and Injuries	May/Jun 1948	USSR/Medicine - Blood Pressure, High Medicine - Heart, Diseases	May 1948
"Review of P. Ye. Snesev's Book, 'General Histopathology of Encephalic Traumata'," Prof B. Klosovskiy, 3 pp		"Variations of the Fundus Oculi in Hypertonic Disease and Their Classification," Prof M. L. Krasnov, Moscow, 2 pp	
"Voprosy Neyrokhirurgii" Vol XII, No 3		"Sov Meditsina" No 5	
Book sums up wartime articles and speeches. Expresses author's personal views based on many years of investigation, great number of which were performed by methods introduced by him. Favorable review, although Prof Klosovskiy differs with author on several points.		Although history of this subject starts with Bright in 1836, there is yet no generally accepted method of classification. Author suggests following one: (1) Angiopathia retinae hypertonica; (2) Angiosclerosis retinae hypertonica; (3) Retinopathia (s. neuroretinopathia hypertonica)-R. arteriosclerotica, R. renalis, and R. hypertonica maligna.	
FDB	76T63	FDB	76T64

RESTRICTED	FDB Periodical Abstracts Scientific No 76	RESTRICTED
USSR/Medicine - Blood Pressure, High Medicine - Surgery "Problems of Surgical Treatment of Hypertonic Disease," Prof F. M. Lampert, Moscow, 2 pp "Sov Meditsina" No 5 Describes hypertonic disease, mechanism of action, indications and contraindications. Reviews existing surgical treatments. Describes own method, which must not be used where arteriosclerosis and atherosclerosis phenomena have developed.	May 1948 <	

RESTRICTED	FDB Periodical Abstracts Scientific No 76	RESTRICTED
USSR/Medicine - Vagina (Contd)	May 1948	USSR/Medicine - Tumors May 1948
<p>Gramicidin is effective for endocervicitis. In gonorrheal cases it was used in conjunction with per os administration of sulfamides. Rapid clinical effect was observed in colpitis cases, but was usually short-lived.</p>		<p>Medicine - Medical Legislation</p>
		<p>"Review of L. M. Shabad's Book; 'Outlines of Experimental Oncology,'" Prof G. A. Reynberg, S. N. Ardashnikov, 1 p</p>
		<p>"Sov Meditsina" No 5</p>
		<p>Book is the fruit of long and varied experience of a leading school of Soviet oncology. Appearance is timely, in view of recent government decree of drive against malignant tumors. Review is favorable. Total absence of illustrations is enormous drawback. Published by Academy of Medical Sciences USSR, Moscow, 1947, 592 pp.</p>
FDB	76T70	FDB
USSR/Medicine - Medicine, Rural May 1948		USSR/Medicine - Blood Pressure, High May 1948
<p>Medicine - Sanitation and Hygiene</p>		<p>Medicine - Heart, Diseases</p>
<p>"Review of Ya. A. Frenkel's Book; 'Organization of Medical, Prophylactic and Antiepidemic Assanation in Rural Areas,'" I. Ya. Bychkov, Docent, 1 p</p>		<p>"Special Features of the Course and Prognosis of Infarct of the Myocardium in Hypertonic Cases," G. A. Rayevskaya, Faculty Therapeutics Clinic, Med Inst of Ministry of Pub Health RSFSR; Inst of Consultation on Work Capacity, 2 pp</p>
<p>"Sov Meditsina" No 5</p>		<p>"Sov Meditsina" No 5</p>
<p>Collection of official material on subject for use of village doctors and public health officials. In addition to purely legal matters, there is much practical information, e.g., on collective farm baths, disinfection, etc. Main defects are poor arrangement, lack of index, and inclusion of obsolete regulations. Published by MedGiz, 1947, 356 pp.</p>		<p>Infarct of the myocardium is more frequent and severe among hypertonic cases. Frequency is due to coronary sclerosis, often associated with hypertonic disease. Severity is due to considerable hypertrophy of the heart, among hypertonics, which facilitates onset of cardiac defect.</p>
FDB	76T73	FDB
USSR/Medicine - Microorganisms Jun 1948		USSR/Medicine - Wheat Jun 1948
<p>Medicine - Cells, Inclusions</p>		<p>Medicine - Chromosomes</p>
<p>"The Structure of the Nucleolus and the Functional Variations of Its Secretory Apparatus in 'Amoeba Polypodia,'" P. I. Zhivago, Inst of Cytol, Histology, and Embryol, Acad Sci USSR, 3 pp</p>		<p>"Sesquidiploids of Wheat," A. R. Zhebrak, Hon Mem, Acad Sci Belorussian SSR, Moscow Agr Acad imeni K. A. Timiryazev, 4 pp</p>
<p>"Dok Ak Nauk SSSR" Vol LX, No 7</p>		<p>"Dok Ak Nauk SSSR" Vol LX, No 7</p>
<p>Briefs account based on observations made on microphotographs of living objects. Submitted Mar 1948.</p>		<p>Describes research work to obtain, through the medium of sesquidiploids, new types of wheat which will have in one complex the balanced genes of various forms of wheat. Submitted Apr 1948.</p>
FDB	76T75	FDB
USSR/Medicine - Pine Jun 1948		USSR/Medicine - Oak Jun 1948
<p>Medicine - Water, Supply</p>		<p>Medicine - Illumination</p>
<p>"Growth of Annual Pine Sprouts as an Index of Drought," P. B. Raskatov, Voronezh State Game Reserve, 3 pp</p>		<p>"The Behavior of Oak Seedlings Under Continuous Electrical Illumination," V. M. Leman, Agr Acad imeni K. A. Timiryazev, 4 pp</p>
<p>"Dok Ak Nauk SSSR" Vol LX, No 7</p>		<p>"Dok Ak Nauk SSSR" Vol LX, No 7</p>
<p>Attempts to use the growth of the pine tree to determine conditions in spring and summer. Submitted Mar 1948.</p>		<p>Shows that, contrary to existing opinion, the oak is completely plastic species, responding to changes in illumination. Submitted Apr 1948.</p>
FDB	76T77	FDB
		76T78

RESTRICTED		FDB Periodical Abstracts Scientific No 76		RESTRICTED	
USSR/Medicine - Plants Medicine - Illumination		Jun 1948	USSR/Medicine - Plants Medicine - Botany		Jun 1948
"The Effect of Strong and Weak Light, Given Before or After a Dark Period, on the Growth of 'Perilla' and 'Rudbeckia'," G. A. Samygin, Inst of Plant Physiol imeni K. A. Timiryazev, Acad Sci USSR, 4 pp			"Internal Factors of the Flowering and Maturing Stage of Plants," M. Kh. Chaylakhyan, Inst of Plant Physiol imeni K. A. Timiryazev, Acad Sci USSR, 4 pp		
"Dok Ak Nauk SSSR" Vol LX, No 7			"Dok Ak Nauk SSSR" Vol LX, No 7		
Describes and analyzes research on significance of intensity of light administered to plants prior to period of darkness. Submitted Mar 1948.			Gives results of some experiments as basis for general conclusions on nature of substances determining flowering and maturing stage of plants. Submitted Apr 1948.		
FDB		76T79	FDB		76T80
USSR/Medicine - Eyes Medicine - Mesoderm and Mesodermal Tissue		Jun 1948	USSR/Medicine - Fish Medicine - Eyes		Jun 1948
"The Importance of the Mesenchymal Membranes in the Growth of the Eyes in Amphibians," G. V. Lopashov, Inst of Cytol, Histology, and Embryol, Acad Sci USSR, 3 1/2 pp			"Adaptive Importance of Structural Variations in the Growth of Retina of Carp (Carassius Carassius L.)," Ye. A. Baburina, Lab of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 4 pp		
"Dok Ak Nauk SSSR" Vol LX, No 7			"Dok Ak Nauk SSSR" Vol LX, No 7		
Describes experiments that permit better understanding of effect of mesenchyme on development of eyes and their regeneration. Submitted Mar 1948.			Reports observations on development of eye of golden carp, performed to study relation between structural alterations of retina and alterations of larva in surrounding medium. Concludes that they are closely related. Included four microphotographs. Submitted 27 Mar 1948.		
FDB		76T81	FDB		76T82
USSR/Medicine - Hearing, Tests Medicine - Sounds		Jun 1948	USSR/Medicine - Cells, Division Medicine - Plants		Jun 1948
"The 'Loudness' of Auditory Images," N. A. Garbuzov, 4 pp			"Division of the Nuclei in the Lining Cells of the Anthers of Poppies," Ye. N. Volotov, Inst of Cytol, Histology, and Embryol, Acad Sci USSR, 3 pp		
"Dok Ak Nauk SSSR" Vol LX, No 7			"Dok Ak Nauk SSSR" Vol LX, No 7		
Reports 'loudness' experiments performed on ten qualified musicians. Concludes that musicians err in supposing that their imagined notes are as loud as the actual notes. Submitted 28 Mar 1948.			Volotov presents results of his research on division of nuclei in lining cells, phenomenon directly associated with accumulation of chromatin material. Submitted Mar 1948.		
FDB		76T83	FDB		76T84
USSR/Medicine - Enzymes Medicine - Autolysis		Jun 1948	USSR/Medicine - Cells Medicine - Glycolysis		Jun 1948
"Structure of Plastids and Activity of Ferments," N. M. Sisakyan, A. M. Zolkover, V. I. Biryuzova, Inst of Biochem imeni A. N. Bakh, Lab of Electronic Micros, Dept of Biol Sci, Acad Sci USSR, 4 pp			"Oxidation of Glycolic Acid in Green Cells," P. A. Kolesnikov, Inst of Biochem imeni A. N. Bakh, Acad Sci USSR, 3 pp		
"Dok Ak Nauk SSSR" Vol LX, No 7			"Dok Ak Nauk SSSR" Vol LX, No 7		
Discusses character of the change of structure of plastids as result of their autolysis, and relations of changed condition of structures to activity of ferments included in plastids. Submitted Mar 1948.			Found oxidizing reaction, unknown until present time, and compounds previously observed in chlorella in barley leaves. Submitted Mar 1948.		
FDB		76T85	FDB		76T86

RESTRICTED		FDB Periodical Abstracts Scientific No 76		RESTRICTED	
USSR/Medicine - Heart Medicine - Adenosin		Jun 1948	USSR/Medicine - Spinal Cord Medicine - Histamine		Jun 1948
"The Effect of Adenosintriphosphoric Acid on the Activity of the Isolated Mammalian Heart," Ye. B. Babitskiy, A. G. Pugachev, Inst of Biol and Med Chem, Acad Med Sci USSR, 4 pp			"Histamine in the Front and Rear Roots of the Spinal Cord in Mammals," D. Ye. Ryvkina, Inst of Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 3 pp		
"Dok Ak Nauk SSSR" Vol LX, No 7			"Dok Ak Nauk SSSR" Vol LX, No 7		
Reports of previous investigations are contradictory. Present 30 experiments performed on hearts of rabbits and guinea pigs isolated by Langendorf's method. Perfusion of the heart was done in Ringer-Locke's solution, and the drug administered by injection. Results			Reports series of experiments on subject histamine. Used various animals, killed either by ether or by blow on the head. Tabulates histamine contents. Submitted 30 Mar 1948.		
FDB	76T87	FDB	76T88		
USSR/Medicine - Heart (Contd)		Jun 1948	USSR/Metals Steel, Liquid Steel - Metallurgy		May 1948
show that adenosin is powerful stimulant, acting on both muscle and coronary sulcus. Submitted 29 Mar 1948.			"Criticism of the Work of Marshall and Chipman on the Problem of the Activity of Carbon and Oxygen in Liquid Steel," B. V. Stark, Corr Mem, Acad Sci USSR, 17 pp		
"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5			Criticizes Marshall and Chipman's book "Basic Open Hearth Steelmaking." First objection is that the data is unreliable as it was obtained at temperatures of 1540°. Temperature relationship determined by		
FDB	76T87	FDB	76T89		
USSR/Metals Iron Carbon		Jun 1948	USSR/Metals (Contd)		May 1948
"Intensity of the Charge of Carbon Particles Dissolved in γ -Iron," T. A. Lebedev, V. M. Guterman, 3 pp			Marshall and Chipman must be considered merely primary approximation. Submitted 25 Jun 1947.		
"Dok Ak Nauk SSSR" Vol LX, No 7					
Found that particles of carbon dissolved in γ -iron function as cations, and that greatest probable value of charge of these particles approaches 3 or 4 units. Submitted Mar 1948.					
FDB	76T90	FDB	76T89		
USSR/Mines Mining Methods		May 1948	USSR/Oceanology Waves, Ocean Reverberation		Jun 1948
"The Order for Operations for a Mining Area Under Conditions Found at the Moscow Basin," A. P. Sudoplatov, Mining Inst, Acad Sci USSR, 17 pp			"Some Features of the Observed Reverberation of the Sea," Yu. M. Sukharevskiy, Phys Inst imeni P. M. Lebedev, Acad Sci USSR, 4 pp		
"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5			"Dok Ak Nauk SSSR" Vol LX, No 7		
Describes some of more common mining methods employed at Moscow Basin mines. Classifies more efficient methods for mining in areas similar to Moscow Basin. Submitted by Academician A. M. Terpigorev 5 Feb 1948.			Discusses diffusion in surface of sea as source of reverberation, principles of intensity of reverberation relative to time, and other phenomena observed in experiments. Submitted Mar 1948.		
FDB	76T91	FDB	76T92		

RESTRICTED FDB Periodical Abstracts Scientific No 76		RESTRICTED	
USSR/Physics Crystallography X-Ray Analysis	Jun 1948	USSR/Physics Waves, Electromagnetic Diffraction	Jun 1948
<p>"Electronographic Determination of the Structure of BaCl_2," B. K. Vaynshteyn, Inst of Cryst, Acad Sci USSR, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 7</p> <p>Describes subject experiment, and compares results with crystallographic and roentgenographic findings. Submitted Mar 1948.</p>		<p>"The Principle of Duality in the Theory of Diffraction of Electromagnetic Waves in Plane Screens," Ya. N. Fel'd, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 7</p> <p>Fel'd sets forth new elementary form of principle first formulated by A. A. Pistol'kors, and modified by M. A. Leontovich. Submitted Apr 1948.</p>	
FDB	76T93	FDB	76T94
USSR/Physics Mathematics, Applied	Jun 1948	USSR/Physics Luminescence Damping	Jun 1948
<p>"Explanation of Wave Functions Inverted to the Past," Acad V. A. Fok, Phys Inst, Leningrad State U, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 7</p> <p>Fok's object is to show that such a function has specific physical meaning. Submitted Apr 1948.</p>		<p>"Luminescence of Haloid Salts of Silver," S. I. Golub, Sci Res Inst of Phys, Odessa State U imeni I. I. Mechnikov, 3 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 7</p> <p>Gives results of studies of spectra of luminescence and fluorescence, and discusses principle of extinction. Submitted Mar 1948.</p>	
FDB	76T95	FDB	76T96
USSR/Physics Astronomy Stars	Jun 1948	USSR/Physics Mathematics, Applied	Jun 1948
<p>"Secular Decrease of the Mass of Stars as an Evolutionary Factor," D. Ya. Martinov, Astron Observatory imeni V. P. Engel'gardt, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 7</p> <p>Shows by computation that system approaches point where axial rotation becomes slower than orbital revolution. This will lead to prevention of tidal wave, and to reverse process of tidal evolution. Submitted Apr 1948.</p>		<p>"Diffraction of a Plane Elastic Wave With Regard to a Semi-Infinite Rectilinear Rigidly Secured Aperture," M. M. Fridman, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 7</p> <p>Presents solution to the two-dimensional problem of the diffraction of an interrupted plane, longitudinal or transverse, elastic wave. Submitted Apr 1948.</p>	
FDB	76T97	FDB	76T98
USSR/Physics Dynamics Gas Flow	Jun 1948	USSR/Physics Astronomy Corona, Solar	May/Jun 1948
<p>"Some Accurate Solutions of Equations of Gas Dynamics for Center-Symmetrical Motion," K. P. Stanyukovich, 4 pp</p> <p>"Dok Ak Nauk SSSR" Vol LX, No 7</p> <p>Considers the center-symmetrical motion of a gas, taking into account the changeability of entropy. Submitted Mar 1948.</p>		<p>"The Ionization of the Solar Corona," I. S. Shklovskiy, 11 pp</p> <p>"Astron Zhur" Vol XXV, No 3</p> <p>Demonstrates unsoundness of Sach's theory. Main factor is ionization by electronic bombardment, as T_e of the corona is very high. Equating number of bombardment ionizations to number of recombinations gives formula very different from Sach's. Calculates iron ionization and gives equilibrium conditions as</p>	
FDB	76T99	FDB	76T100

FDB Periodical Abstracts Scientific No 76

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<p>USSR/Physics Spectrum Analysis Stars</p> <p>May/Jun 1948</p> <p>"The Origin of Emission Bands in the Spectra of new Stars," E. R. Mustel', State Astron Inst imeni P. K. Shternberg, 12 pp</p> <p>"Astron Zhur" Vol XXV, No 3</p> <p>Shows that high intensity of spectra emission bands of new stars after their maximum does not correspond with temperature of these stars as determined by their spectrum class. Argues that origin of emissions is related to ejection of matter from extended envelope surrounding new stars after maximum and from main envelope.</p> <p>FDB 76T101</p>	<p>USSR/Physics (Contd)</p> <p>May/Jun 1948</p> <p>system of linear equations and solves for various values of T_e. Results show that $T_e = 350,000^\circ$ is too low for observed ionization. At $700,000^\circ$ Fe I and Fe XI will predominate; this corresponds to Wal'd mayer's "red areas." At $1,400,000^\circ$ Fe XIII and Fe XIV will predominate, which may correspond with the "green areas."</p> <p>FDB 76T100</p>
<p>USSR/Physics Astronomy Stars</p> <p>May/Jun 1948</p> <p>"Model of a Star With a Convective Nucleus for Red Giants," A. G. Masevich, State Astron Inst imeni P. K. Shternberg, 4 pp</p> <p>"Astron Zhur" Vol XXV, No 3</p> <p>Examines model with convective nucleus for three supergiant stars of M spectrum class. Shows that for case "Nucleus" - "Envelope" 1 it is impossible to construct model without special feature in center. A physically intelligible model is obtained only when</p> <p>FDB 76T102</p>	<p>USSR/Physics Astronomy Bibliography</p> <p>May/Jun 1948</p> <p>"Annotated Index No 54 of Astronomical Literature," S. A. Shorygin, 8 pp</p> <p>"Astron Zhur" Vol XXV, No 3</p> <p>Lists astronomical works published in USSR in Feb and Mar 1948: (a) books, pamphlets and collections of articles, (b) syllabuses, (c) ephemeral, (d) periodicals and publications of institutes and observatories, (e) articles in journals of general character, and of other specialities and (f) bibliographies.</p> <p>FDB 76T103</p>
<p>USSR/Physics (Contd)</p> <p>May/Jun 1948</p> <p>"Nucleus ~ 2. Even this model is unsatisfactory, however, since it does not explain energy output of giant stars. One must suppose that in red giants, as distinct from stars, there is no main series of convective nuclei.</p> <p>FDB 76T102</p>	<p>List of Abbreviations used in FDB Periodical Abstracts</p> <p>ID Intelligence Division Library AMC Air Documents Division, Air Material Command ST Reference Division, State Department BM Bureau of Mines, Department of Interior BS National Bureau of Standards SI Smithsonian Institution LC Library of Congress FDB Foreign Documents Branch, CIA COM Department of Commerce AF A-2 Library, USAF</p>